

REMARKS:

Claims 1-22 and 46-48 are now pending in the application, with claims 1 and 46-48 being the independent claims. Reconsideration and further examination are respectfully requested.

Initially, Applicant thanks the Examiner for the indication that claim 7 recites allowable subject matter and would be allowed if rewritten into independent form. This has not been done because Applicant believes that the other claims pending in the application also are allowable, as discussed in more detail below.

Applicant also is submitting copies of the two references that were indicated as not having been received in the initialed copy of the form PTO/SB/08B that was returned along with the current Office Action. Applicant also is enclosing a copy of the stamped postcard that was received from the USPTO receiving office indicating that all 29 submitted references were in fact received.

Applicant affirms the election of claims 1-22, 46 and 47. Non-elected claims 23-45 have been canceled above.

In the Office Action, claims 1-3, 5, 6 8-22, 46 and 47 were rejected under 35 USC § 103(a) over U.S. Patent 2,718,308 (Le Bus) in view of the U.S. Patent 2,401,871 (Heeter); claims 1-3, 5, 6, 8-12, 17-22, 46 and 47 were rejected under § 103(a) over U.S. Patent 1,561,049 (Bonner) in view of Heeter; and claim 4 was rejected under § 103(a) over Le Bus or Bonner in view of Heeter and U.S. Patent 5,772,402 (Goodman). Withdrawal of these rejections is respectfully requested for the following reasons.

The present invention is directed to apparatuses in which changes in gas pressure within a container are utilized to draw liquid or semi-liquid materials in and/or out through an inlet/outlet. As discussed in more detail in the Specification, the provision of a gateway (as recited in the

claims) allows the materials to be suspended within the apparatus even when the inlet/outlet is raised above the surface of such materials, without the need for a mechanical valve.

In the preferred embodiments of the invention, certain moving mechanical components are isolated from such materials, thereby reducing required maintenance, as well as permitting easier handling of viscous fluids, mixtures that are difficult to pump and mixtures that would be degraded by moving mechanical parts. For example, in one of the embodiments discussed in the Specification, a pump for controlling air pressure within the container is located on the surface while the container, gateway and inlet/outlet are lowered deep into a well. That is, the pump is separated from the material that is drawn into the apparatus by a great distance, thereby preventing the material from contaminating the pump.

The claims have been amended above to emphasize these features of the invention. For example, independent claims 1, 46 and 47 have been amended above to recite that the apparatus is configured such that, when in operational use, the material entering the inlet/outlet does not flow into or past the pressure-control means. This is significantly different than the submersible pumps that are described in Le Bus and Bonner.

In this regard, Le Bus concerns sand and gas traps that are inserted into the casing of an oil well. As indicated in the Office Action, Le Bus does not disclose or suggest the use of a pressure-control means for controlling gas pressure within a container, as recited in the present claims. Rather, Le Bus utilizes a submersible pump 4 to pump oil up through the oil well casing.

To overcome this deficiency of Le Bus, it is asserted in the Office Action that Heeter discloses a vacuum sand pump for use in a well and that it would have been obvious to substitute Heeter's vacuum pump for Le Bus's submersible pump. No specific details have been provided as to how such a substitution would be accomplished. Accordingly, it is difficult to specifically

address this argument. However, the following discussion will emphasize certain generic problems with making such a substitution and, therefore, show that there would have been no motivation to make such a combination.

At the outset, it is noted that Le Bus concerns an apparatus for continuous pumping of oil. In such an application, submersible pumps are widely used because of their ability to pump to significant heights, i.e., without any inherent height limitations. On the other hand, as is well known, the use of a vacuum pump to draw up a fluid creates an inherent limitation as to how high the fluid can be pumped, which height limitation is a function of ambient air pressure and the density of the fluid or other material to be pumped. For pure water, the height limitation is approximately 34 feet. For oil, the limitation might be more like 37-43 feet.

In this regard, Applicant is attaching hereto certain statistical information regarding oil-well depths. As indicated on the Utah Oil and Gas Web site, the average depth of a well is 7600 feet. The attached article titled "The History of Oil Exploration in Iowa" does not indicate an oil well having a depth anywhere near the height limitation mentioned above. Accordingly, any substitution of Heeter's pump into Le Bus's apparatus likely would have resulted in a significant disadvantage, effectively making Le Bus's apparatus useless for its intended purpose.

In addition, it is not even certain that a direct substitution would be possible. As noted above, Le Bus uses a submersible pump. Merely replacing such a pump with Heeter's vacuum pump, which is not intended to be submersed, likely would have severely reduced the operational life of the pump. Moreover, it is not even clear that Heeter's vacuum pump is sized or configured to be capable of being inserted into an oil well casing.

Still further, it is believed that any workable substitution of Le Bus's submersible pump with Heeter's vacuum pump would require extensive structural modifications. Once again, there is simply no motivation to make any such modifications.

Arguments identical to those set forth above also can be made with respect to the proposed substitution of Heeter's vacuum pump into Bonner's oil-well pump.

As noted above, the precise disadvantages that would result from the proposed pump substitutions are not possible to specify because the precise configuration of the apparatus after such a substitution has not been specified. However, as is clear from the above discussion, each potential configuration would result in at least one major disadvantage. In light of such disadvantages, it is believed that there would have been no motivation to make the asserted substitution. That is, the applied references neither describe how to overcome such disadvantages nor provide any offsetting advantages to making such a substitution.

Accordingly, withdrawal of the obviousness rejections with respect to independent claims 1, 46 and 47 is respectfully requested. However, if any of such rejections is maintained, Applicant respectfully requests additional clarification regarding the specific configuration of the proposed substitution, so that the obviousness assertion can be addressed more fully.

New independent claim 48 is similar to independent claim 1, but instead recites that the apparatus is configured such that, when in operational use, the material entering the inlet/outlet does not come into contact with any moving part. This feature, supported in the Specification, e.g., at page 33 lines 25-26, also is not disclosed or suggested by the applied art.

The other rejected claims pending in the application depend from the independent claims discussed above, and are therefore believed to be allowable for at least the same reasons.

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Because each dependent claim also defines an additional aspect of the invention, however, the individual reconsideration of each on its own merits is respectfully requested.

In order to sufficiently distinguish Applicant's invention from the applied art, the foregoing remarks emphasize several of the differences between the applied art and Applicant's invention. However, no attempt has been made to categorize each unobvious difference. Applicant's invention comprises all of the elements and all of the interrelationships between those elements recited in the claims. It is believed that for each claim the combination of such elements and interrelationships is not disclosed, taught or suggested by the applied art. It is therefore believed that all claims in the application are fully in condition for allowance, and an indication to that effect is respectfully requested.

If there are any fees due in connection with the filing of this paper that have not been accounted for in this paper or the accompanying papers, please charge the fees to our Deposit Account No. 13-3735. If an extension of time under 37 C.F.R. 1.136 is required for the filing of this paper and is not accounted for in this paper or the accompanying papers, such an extension is requested and the fee (or any underpayment thereof) should also be charged to our Deposit Account. A duplicate copy of this page is enclosed for that purpose.

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